Abstract Submitted
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Shock-Release Experiments on OMEGA EP. A. SHVYDKY, D. HABERBERGER, J.P. KNAUER, S.T. IVANCIC, J. CARROLL-NELLENBACK, D. CAO, I.V. IGUMENSHCHEV, V.V. KARASIEV, A.V. MAXIMOV, S.P. REGAN, P.B. RADHA, T.C. SANGSTER, R. BONI, P.M. NILSON, D.H. FROULA, V.N. GONCHAROV, E.M. CAMPBELL, Laboratory for Laser Energetics, V.A. SMALYUK, Lawrence Livermore National Laboratory — In an inertial confinement fusion implosion, release of the shocked material from the inner side of the shell after the shock breakout is an important process that affects formation of the hot spot and implosion performance. Experiments on OMEGA EP at the Laboratory for Laser Energetics used 4ω interferometry to measure the spatial evolution of the low-density material ahead of an accelerated CH. The foil trajectory was measured using side-on x-ray radiography. Radiation-hydrodynamics simulations using *DRACO* and *LILAC* agree well with the trajectory measurements but generally exhibit less extended electron density position and shorter scale length. It was found that the release strongly depends on the conditions at the back surface before the shock breakout. Analysis of the most recent experiments and simulations will be presented and the sensitivity of the density profile to different physics will be discussed. This material is based upon work supported by the Department of Energy National Nuclear Security Administration under Award Number DE-NA0003856.

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